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Filed : December 12, 2001

### REMARKS

Claims 1-7 and 9-27 are pending in this application. Claim 8 has been canceled. Claims 1, 5, 7, 9, 12-14, and 18 have been amended. New Claims 24-27 have been added. Support for the new claims and amendments is found in the specification and claims as filed.

The amendments to claims 5, 7, 9, 12, 13, and 18 are entered solely to clarify the subject matter of the claims and not specifically pursuant to any provision of the Patent Act, therefore these amendments, even if viewed as narrowing, have not been made for a reason related to patentability.

Paragraph [0026] of the specification has been amended to correct typographical errors.

#### **Claim Rejections - 35 U.S.C. § 112, second paragraph**

Claim 14 has been rejected under 35 U.S.C. §112, second paragraph, as indefinite. Claim 14 has been amended to delete the phrase "preferably." Accordingly, Applicants respectfully request withdrawal of the rejection.

#### **Claim Rejection - 35 U.S.C. § 103(a)**

Claims 1-23 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over WO99/47731 (hereinafter "WO '731"). To articulate a *prima facie* case of obviousness, the PTO must, *inter alia*, cite prior art that teaches or suggests all the claimed limitations. *In re Royka*, 490 F.2d 981 (C.C.P.A. 1974). In the present case, WO '731 fails to teach or suggest all of the claimed limitations, namely, the specific complexing agents recited in pending Claim 1 as amended.

Pending Claim 1, the sole independent claim, recites, *inter alia*, a complexing agent "having the chemical formula:  $\text{COOR}_1\text{-COHR}_2\text{R}_3$  wherein  $\text{R}_1$  is a hydrocarbon group covalently bound to the carboxylate group (COO),  $\text{R}_2$  is either hydrogen or an organic group, and  $\text{R}_3$  is either hydrogen or an organic group". WO '731 only discloses complexing agents selected from the group consisting of EDTA (ethylene diamine tetraacetic acid), ED (ethylene diamine), and a polycarboxylic acid such as citric acid, or their salts. Accordingly, a *prima facie* case of obviousness cannot be established.

Any assertion of obviousness over the teachings of WO '731 is rebutted by the unexpectedly superior properties of the copper seed layers deposited from the electroplating

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solutions as presently claimed. "A greater than expected result is an evidentiary factor pertinent to the legal conclusion of obviousness ... of the claims at issue." *In re Corkill*, 711 F.2d 1496, 226 USPQ 1005 (Fed. Cir. 1985). As discussed in the application at paragraph [0009] with respect to the electroplating method of WO '731, "plating mostly occurs on the already deposited PVD copper seed layer whereas the adhesion to the originally uncovered barrier layer (e.g. TaN) is expected to be very poor. This can possibly result in reliability problems after full metallization processing." In contrast, the electroplating solutions of the invention as presently claimed yield high quality copper seed layers with excellent adhesion to the barrier layers. See paragraph [0001] of the application.

Accordingly, Applicants respectfully request that the rejection be withdrawn.

#### **Claim Rejection - 35 U.S.C. §103(a)**

Claims 1-23 have been rejected under 35 U.S.C. §103(a) as obvious over WO '731 in view of EP 1022355 A2 (hereinafter "EP '355").

The present application claims priority to a U.S. provisional application filed December 22, 2000. EP '355 was published July 26, 2000, and lists Applicants, Roger Palmans and Yuri Lantsov, as joint inventors. An applicant's disclosure of his or her own work within the year before the application filing date cannot be used against him or her. A rejection can be overcome by submission of a specific declaration by the applicant establishing that the article is describing applicant's own work. *In re Katz*, 687 F.2d 450, 215 USPQ 14 (CCPA 1982).

Enclosed herein is the Declaration under 37 CFR §1.132 of Roger Palmans and Yuri Lantsov, joint inventors of the present application. Roger Palmans and Yuri Lantsov state that the portions of the reference relevant to the present application originated with or were obtained from them. EP '355 is therefore not prior art to the present application.

As discussed above, the invention as presently claimed is not obvious over WO '731. Accordingly, Applicants respectfully request that the rejection be withdrawn.

#### **Conclusion**

In view of the foregoing amendments and remarks, it is respectfully submitted that the present application is in condition for allowance. Should the Examiner have any remaining

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concerns that might prevent the prompt allowance of the application, the Examiner is respectfully invited to contact the undersigned at the telephone number below.


Respectfully submitted,

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Dated:

July 8, 2004

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AMEND  
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